MULTI-LAYER-PRINTING (MLP)

THE PROCESS
Multilayer printing may be interpreted as the professional approach to large format digital print. In principle printing heads in carrier are in a manner of speaking divided into three parts – data can be fed separately to each of the three parts (printing heads) as if it were a single printing machine.
But the big difference and at the same time the biggest advantage is all three printing processes happen at the same time – three images exactly on top of each other are printed onto print medium at the same time. One of the most prominent features the white option (layer 2) which is produced as a means of overlay/intermediate layer between layer 1 (bottom layer) and layer 3 (top layer) This white intermediate layer offers a new approach to use, it also could be used for optical effects. Multilayer printing process is differentiated between prints on not backlit or on backlit media.

MLP FOR BACKLIT MATERIALS

MLP - BLOCK OUT PRINT
This so called block-out print is used in order to enhance parts of images (CI-characteristics or special Details) usually in backlit large formats (placement in light boxes).
For this type of three layer print top and bottom layer receive the image prints and the intermediate layer will be printed in all white where certain spots are omitted – leaving openings for more light to pass through. Optically those omitted spots seem to be deeply shaded. Usually used in order to enhance product details and for logo placements in premium light boxes. Do not underestimate complexity – this process requires very skillful and detailed knowledge of process as well as experience.

PREPARATION OF PRINTING DATA AS FOLLOWING:
A channel or layer in a solid colour (White_Ink) is created that contains all elements that should NOT be highlighted in the backlit state. The back layer is used for the doublestrike and gives opacity to the backlit elements.

Print motif with all elements.

Second level with the elements that are to be highlighted when illuminated.

MLP DAY AND NIGHT

The so-called „day and night process" can be described as a special method for producing a special effect.

The special feature here is that the first layer contains grey components that the third layer does not. The full white layer (layer 2) optically blocks the grey from layer one when it is not backlit. When backlighting occurs, the effect is that all grey components from layer one also become visible on the viewing plane. These applications are found, for example, in fade-in, fade-out light boxes. Without backlighting, the vehicle is only visible as a closed body; with backlighting, the interior of the vehicle is revealed.

PREPARATION OF PRINTING DATA AS FOLLOWING:

The motif that is to be visible in the backlit state is created in the lowest layer. This is followed by a channel or layer in a solid colour (White_Ink) which overprints all elements that are NOT to be visible in the backlit state. The foremost layer shows the „daylight motif".
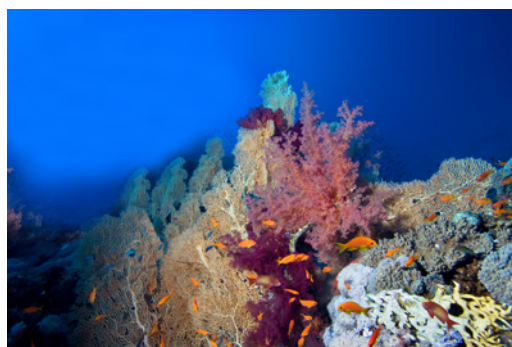

Original motif.
The shark should appear when the lighting is switched on.
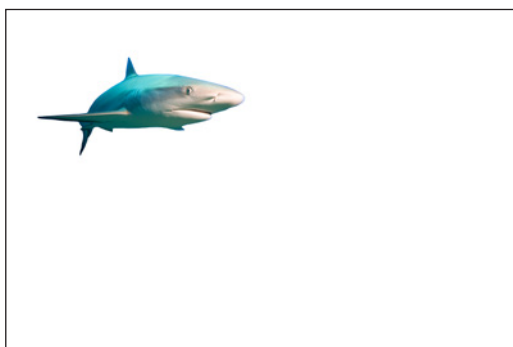
Shark cropped as a separate layer

View in unlit condition.
In order for the process to work, the reef behind the shark had to be retouched out.